

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. – 23. (Canceled)

24. (New) A method of modifying a plant phenotype, comprising:
transforming a plant with an expression vector comprising a nucleotide sequence
encoding a plant non-symbiotic hemoglobin or an antisense sequence thereto, thereby
yielding a transformed plant having an altered level of expression of non-symbiotic plant
hemoglobin as compared to a non-transformed control plant that is not transformed to alter
the level of expression of non-symbiotic plant hemoglobin,
wherein said transformed plant exhibits, under normal oxygen conditions, a plant
phenotype that is modified as compared to said non-transformed control plant,
wherein said phenotype is selected from the group consisting of shoot or root apical
dominance; flower color; and chlorophyll content,
wherein, when said transformed plant exhibits an increased level of expression of
non-symbiotic hemoglobin as compared to said non-transformed control plant, said plant
exhibits increased shoot apical dominance or greater root apical dominance under normal
oxygen conditions as compared to said non-transformed control plant.

25. (New) The method of claim 24, wherein said transformed plant exhibits an increased
level of expression of non-symbiotic hemoglobin as compared to said non-transformed
control plant.

26. (New) The method of claim 25, wherein said transformed plant exhibits increased
shoot apical dominance under normal oxygen conditions as compared to said non-
transformed control plant.

27. (New) The method of claim 25, wherein said transformed plant exhibits reduced flower pigmentation under normal oxygen conditions as compared to said non-transformed control plant.

28. (New) The method of claim 24, wherein said transformed plant exhibits a decreased level of expression of non-symbiotic hemoglobin as compared to said non-transformed control plant.

29. (New) The method of claim 25, wherein said method comprises transforming said plant with an expression vector comprising a nucleic acid molecule encoding a plant non-symbiotic hemoglobin.

30. (New) The method of claim 28, wherein said method comprises transforming said plant with an expression vector comprising an antisense plant non-symbiotic hemoglobin nucleic acid molecule.

31. (New) The method of claim 24, wherein said expression vector comprises an inducible promoter that permits selective induction of expression of a plant non-symbiotic hemoglobin.

32. (New) The method of claim 24, wherein said expression vector comprises a repressible promoter that permits selective repression of expression of a plant non-symbiotic hemoglobin.